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ABSTRACT

To study the nature and extent of the school-dropout problem among Hispanics, a review of relevant literature and an analysis of data from the 1990 decennial census were conducted. School-dropout rate for Hispanic Americans between the ages of 16 and 24 was approximately 30 percent, with the comparison figures at 18 percent for non-Hispanic Blacks and 10 percent for non-Hispanic Whites. Dropout rates were much higher, at 43 percent, for those not born in the United States, and the adjusted rate for those who had contact with U.S. schools was 26 percent. Limited English skills, poverty, and early parenthood were factors in dropping out. Barriers young Hispanics faced in resuming their educations included poverty, poor English skills, the time needed to finish schooling, and job and family responsibilities. Seven figures and 15 tables present analysis results. Five appendixes contain census figures, confidence intervals, detailed estimates of dropout rates, expert sources, and major contributors. (SLD)

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United States General Accounting Office

GAO

Report to Congressional Requesters

July 1994

ED 374 196

HISPANICS' SCHOOLING

Risk Factors for Dropping Out and Barriers to Resuming Education

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United States
General Accounting Office
Washington, D.C. 20548

Program Evaluation and
Methodology Division

B-256465

July 27, 1994

The Honorable Edward M. Kennedy
Chairman, Committee on Labor and Human Resources
United States Senate

The Honorable Paul Simon
United States Senate

You asked us to report, first, on the nature and extent of the school dropout problem among Hispanics and, second, on which Hispanic students are most at risk of dropping out. An analysis of who drops out should be helpful in developing strategies for preventive actions to reduce the dropout rate. But quite different strategies may be needed to help those who have already dropped out so, third, we report on the barriers young Hispanic dropouts face in resuming their high school education.

Like the Bureau of the Census, we use the term "dropout" to refer to a young adult's educational status on a given date, such as the date of the census survey. (The other educational status categories are "high school graduate" and "enrolled in school.") Although the word "dropout" may immediately suggest U.S. schools, we found that over one fourth of the 16- to 24-year-olds who are counted as Hispanic dropouts under this definition were not born in the United States and were age 18 or older when they entered this country. Most of those in this non-U.S.-born group presumably dropped out of school before arriving here. U.S. schools consequently have had little opportunity to influence most of these dropouts. Thus, the "Hispanic dropout rate" does not directly convert into an assessment of the performance of U.S. schools in educating Hispanic youths. However, the Hispanic dropout rate is a direct measure of the preparation of the Hispanic population for participation in our work force.

In addition to reviewing relevant research literature, we did extensive original analysis of data from the 1990 decennial census using the Public Use Microdata Sample (PUMS) created by the Bureau of the Census. PUMS includes comprehensive demographic data on a large sample of Hispanics and allows generalization to the Hispanic population as a whole and to Hispanic subgroups nationwide. At the same time, the census data pertain only to characteristics of individuals and do not permit explanation of many other meaningful risk factors, such as features of schools and peer groups that may influence school completion. (For details documenting our PUMS analysis and presenting confidence intervals for our estimates,

see appendixes I and II, respectively.) We reported earlier to you on your related request for information on federal programs for dropouts and Hispanic participation in these programs.[1]

Results in Brief

First, with regard to the nature and extent of the Hispanic dropout problem, in 1990, the school dropout rate for Hispanics between the ages of 16 and 24 was high—about 30 percent.[2] That is, about 3 of every 10 Hispanics in this age group had not completed high school and were not currently enrolled in regular or adult high school classes.[3] The comparable figure for non-Hispanic blacks was 18 percent, and for non-Hispanic whites, it was 10 percent. While the latter rates have been declining over the last two decades, the rate for Hispanics has shown no consistent trend.

Dropout rates were not uniform by country of origin, ranging from 36 percent for Central Americans and 34 percent for Mexican Americans to 12 percent for South Americans. Dropout rates were much higher for Hispanics not born in the United States (43 percent) than for U.S.-born Hispanics (20 percent). Further, among those born outside the United States, recent arrivals were at a greater risk of dropping out.

We estimate that the dropout rate for 16- to 24-year-olds who likely had contact with U.S. schools was 26 percent. This adjusted rate, while lower than the 30-percent rate for the age group as a whole, was still high.

Second, with regard to the objective of determining which Hispanic youths are at the greatest risk of dropping out, we studied 16- and 17-year-old Hispanics (excluding recent arrivals to the United States) using 1990 census data. We found that the risk of dropping out of U.S. schools was higher for 16- and 17-year-old Hispanics who fell into one or more of the following categories: (1) not born in the United States, (2) limited in English-speaking ability, (3) from poor families, or (4) either married or mothers.

[1]See the April 6, 1994, letter (GAO/PEMD-94-18R) from Eleanor Chelimsky, Assistant Comptroller General, U.S. General Accounting Office, Washington, D.C., to the Honorable Edward M. Kennedy, Chairman, Committee on Labor and Human Resources, United States Senate, and the Honorable Paul Simon, United States Senate.

[2]The term "Hispanic" describes persons whose origin or country of ancestry is Mexico; Puerto Rico; Spain; or Spanish-speaking countries in South America, Central America, or the Caribbean. Some persons prefer other terms including "Latino" or "Chicano." The latter usually implies a person of Mexican ancestry.

[3]The 1990 dropout rate is sometimes cited as 32 percent, a rate derived from the Current Population Survey (CPS) estimates discussed in connection with figure 2.

Third, we examined the barriers young Hispanic dropouts faced in resuming their education. Looking at the 1.15 million Hispanic dropouts age 16 to 24, we found that 7 of 10 were of Mexican origin, that 1 of 10 was of Puerto Rican origin, and that 70 percent lived in one of three states (California, Texas, or New York). These patterns generally reflect the distribution of the 16- to 24-year old Hispanic population.

It is not clear how many of these young dropouts intended to remain in the United States and thus had an incentive to resume their education to obtain a high school diploma or an equivalency certificate. In any case, Hispanic dropouts faced the following formidable barriers to completing their education:

- 40 percent spoke English "not well" or "not at all,"
- over half needed 3 years or more of schooling to complete high school,
- over one third had incomes placing them at or below the poverty line as defined for several federal programs, and
- most had job or family responsibilities.

This study did not compare dropout rates among the racial groups for persons of similar circumstances. Findings from a major longitudinal study of students enrolled in U.S. schools in 1988 suggest that Hispanic youths drop out of U.S. schools at about the same rate as non-Hispanic blacks or whites of the same sex and similar family economic background.[4]

Nature and Extent of the Hispanic School Dropout Problem

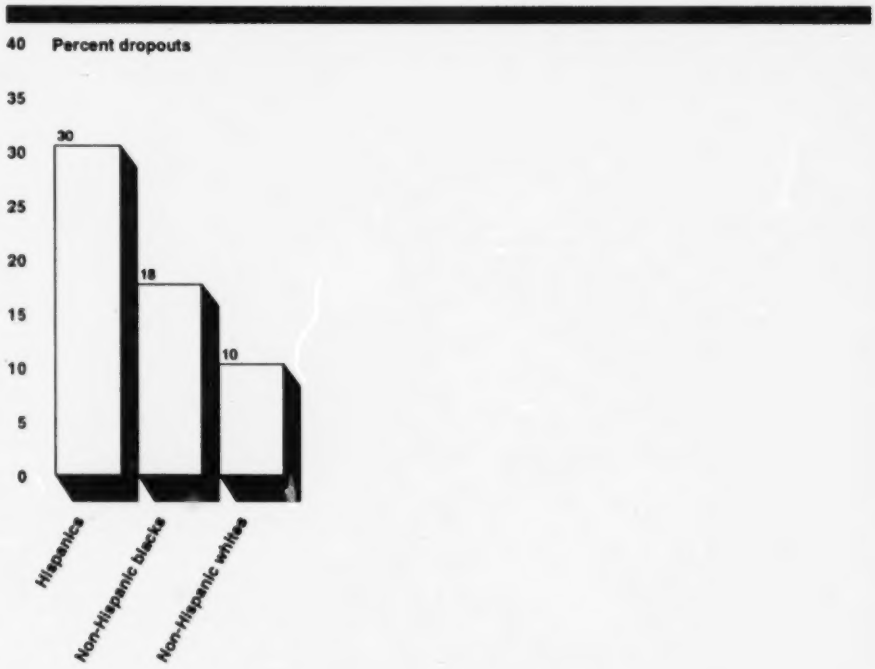
We developed statistics on the "dropout rate"—that is, the percentage of persons in an age group who had not completed high school and were not currently enrolled in high school or studying for a General Educational Development (GED) certificate—from the 1990 census for 16- to 24-year-old Hispanics. We found the following:

- The dropout rate for 16- to 24-year-old Hispanics was high—30 percent, compared with 18 percent for non-Hispanic blacks and 10 percent for non-Hispanic whites.
- The dropout rate for Hispanics has been relatively constant for the last 20 years in contrast to the declining dropout rate for white and black non-Hispanics.

[4]See Philip Kaufman and Denise Bradby, Characteristics of at-Risk Students in NELS:88, NCES 92-042 (Washington, D.C.: National Center for Education Statistics, August 1992), p. 8.

- Dropout rates for different Hispanic subgroups are not uniform, with rates varying from 36 percent for Central Americans to 12 percent for South Americans. (See figures 1, 2, and 3.)[5]

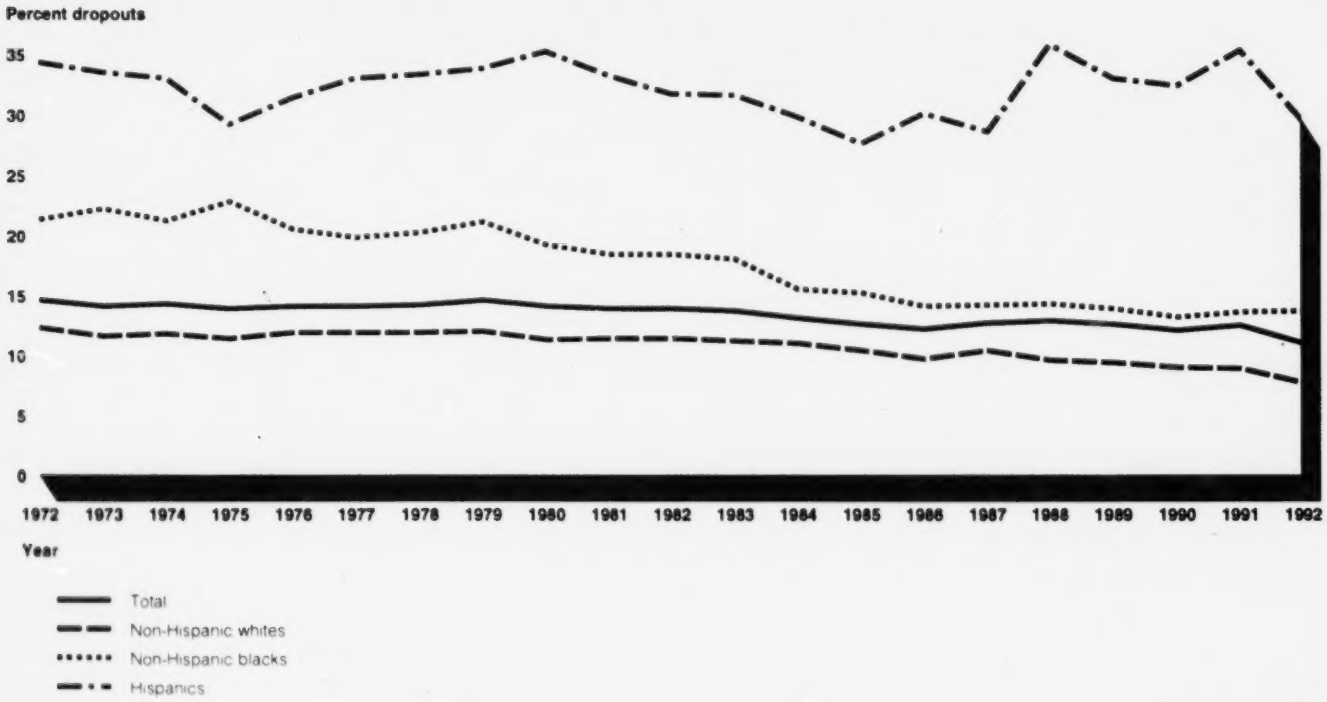
Figure 1: 1990 Dropout Rates for 16- to 24-Year-Olds, by Selected Racial and Ethnic Groups



Source: GAO analysis of 1990 decennial census PUMS.

[5]The long form of the decennial census records the "origin," which may reflect ancestry, country of birth, nationality group, and so on, depending upon the self-report of the census respondent. This can be complex—for example, persons of Mexican ancestry who were born in Cuba could describe their origin as either Mexican or Cuban.

Figure 2: 1972-92 Dropout Rates for 16- to 24-Year-Olds, by Selected Racial and Ethnic Groups



Notes:

PUMS data from the decennial census are not useful for examining year-to-year trends. We turned to the Current Population Survey conducted by the Bureau of the Census and reported by the U.S. Department of Education. While the age range and dropout measure are the same as ours from PUMS, the 1990 CPS Hispanic dropout rate was slightly higher (32 percent) than ours (30 percent) derived from PUMS. Differences between CPS and PUMS do not affect the validity of trends shown in figure 2.

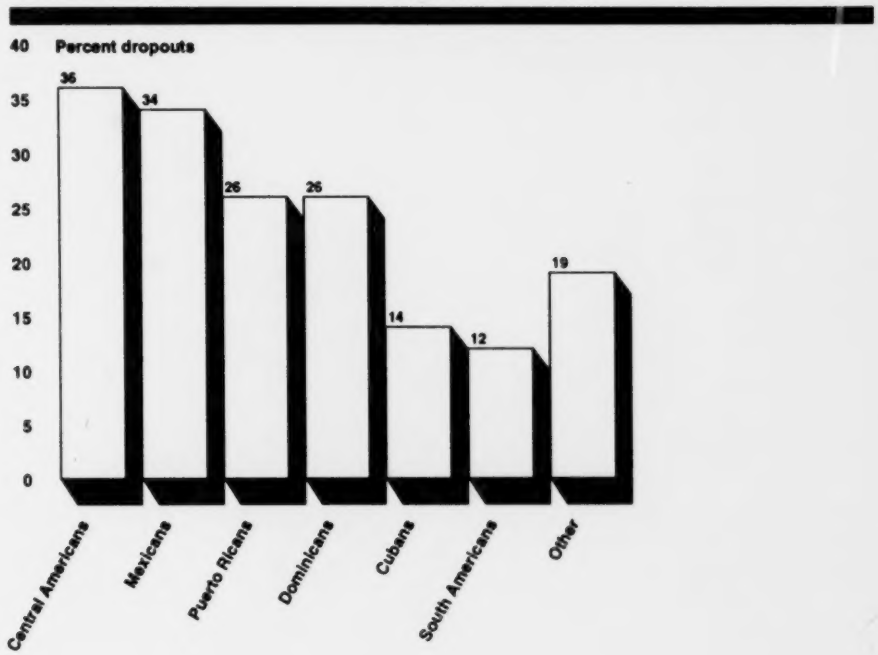
Not shown separately are non-Hispanics who are neither black nor white, but who are included in the total.

Percentages for 1987 and 1990-92 reflect new editing procedures instituted by the Bureau of the Census for cases with missing data on school enrollment items.

Percentages for 1992 reflect new wording of the educational attainment item in CPS.

Source: U.S. Department of Education, Dropout Rates in the United States: 1992, NCES 93-464 (Washington, D.C.: U.S. Department of Education, 1993), p. 97.

Figure 3: 1990 Dropout Rates by Hispanic Subgroup, Age 16 to 24



Source: GAO analysis of 1990 decennial census PUMS.

We wanted to determine whether Hispanics who were born outside the United States fared well in U.S. schools. In order to do this, we compared persons "born in the United States"—that is, the 50 states plus the District of Columbia—with those who were not, which included persons who were

- not citizens;[6]
- citizens by naturalization;
- born abroad of American parents; or
- born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Commonwealth of the Northern Mariana Islands.

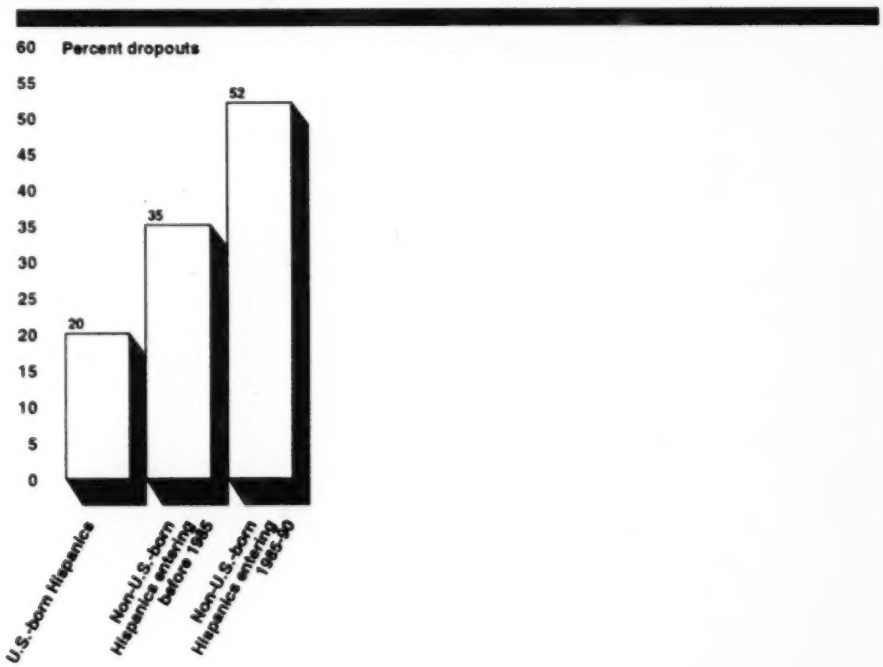
We refer to this group of persons as "not born in the United States" or "born outside the United States." Although they are U.S. citizens, we

[6]This group includes persons who are "immigrants" (that is, permanent resident aliens), so-called "nonimmigrants" (persons with short-term visas authorizing them to be in this country for work, study, and so on), and "undocumented aliens."

classified persons entering from Puerto Rico as "not born in the United States" in order to see how well persons who moved from Puerto Rico to one of the states fared in U.S. schools. We found that persons of Puerto Rican origin born in the United States—that is, in any of the 50 states or the District of Columbia—had a dropout rate of 23 percent compared with a rate of 31 percent for those born in Puerto Rico.[7]

Dropout rates were much higher for Hispanics not born in the United States (43 percent) than for U.S.-born Hispanics (20 percent). (See figure 4.) Put another way, 64 percent of the young Hispanic dropouts were persons born outside the United States. Recent arrivals were at the greatest risk of dropping out—in 1990, 52 percent of Hispanics who entered in 1985-90 were high school dropouts, compared with 35 percent of Hispanics who arrived before 1985.

Figure 4: 1990 Dropout Rates for U.S.-Born and Non-U.S.-Born Hispanics Age 16 to 24



Note: The dropout rate for Hispanics not born in the United States was 43 percent.

Source: GAO analysis of 1990 decennial census PUMS.

[7]There were 68,244 dropouts out of the 292,054 persons of Puerto Rican origin born in the 50 states and the District of Columbia and 45,765 dropouts out of the 145,718 born in Puerto Rico but living in the 50 states and the District.

The findings on recency of arrival suggest that the overall dropout rate by itself is not a good measure of the success of U.S. schools in educating Hispanic youths. We estimate that the dropout rate for 16- to 24-year-old Hispanics who had some contact with U.S schools was 26 percent (compared with the 30 percent rate for all 16- to 24-year-old Hispanics). In appendix III, we discuss how we derived this estimate. Note that this adjusted dropout rate is still considerably higher than the dropout rates for all non-Hispanic blacks and all non-Hispanic whites. (See figure 1.)

Which Hispanic Students Are Most at Risk of Dropping Out?

Efforts to reduce the high dropout rate among young Hispanics should be aided by an understanding of which Hispanic youths are at the greatest risk of dropping out. In order to determine which students were most at risk of dropping out, we studied PUMS data for Hispanic youths age 16 to 17, the age at which state laws against dropping out typically cease to apply.

Because we were interested in studying the factors that predict dropping out of U.S. schools, we excluded from this analysis 16- to 17-year-olds born outside the United States who had entered this country within the last 3 years. This procedure should have excluded from our analyses most Hispanics who had little or no contact with U.S. schools.[8] However, even excluding recently arrived non-U.S.-born persons from the calculations, the dropout rate of Hispanic youths age 16 to 17 was still 11 percent.[9]

We reviewed the research on factors associated with a higher likelihood of dropping out—including both dropout research in general and research specifically focused on Hispanic dropouts—and found four factors that were commonly cited and for which data were available in PUMS: (1) not

[8]The excluded group probably also includes many who did have considerable contact with U.S. schools, but our objective in conducting this analysis was not to obtain an accurate measure of how many were influenced by U.S. schools. Rather, our priority was to exclude from the analysis those who had had little contact with U.S. schools.

[9]The dropout rate for our sample of 16- to 17-year-old Hispanics was 11 percent, compared with 10 percent for non-Hispanic blacks and 7 percent for non-Hispanic whites. These status dropout rates appear consistent with cohort dropout rates developed in the National Education Longitudinal Study of 1988 (NELS:88). Unlike the cross sectional nature of the dropout rates we use throughout this report, the "cohort dropout rate" obtained from NELS:88 tracked a sample of 8th graders gathered from 1988 through 1992. This cohort measure enabled us to determine the educational status of a group, such as a sample of 8th graders in 1988, both initially and then again—that is, the same individuals at a later period (such as 1992). By 1992, 18 percent of the Hispanics in the original sample had dropped out, compared with 15 percent for non-Hispanic blacks and 9 percent for non-Hispanic whites. One would expect NELS:88 dropout rates to be higher than those of the 16- and 17-year-olds because NELS:88 did not exclude recently arrived youths and because NELS:88 data were for older youths.

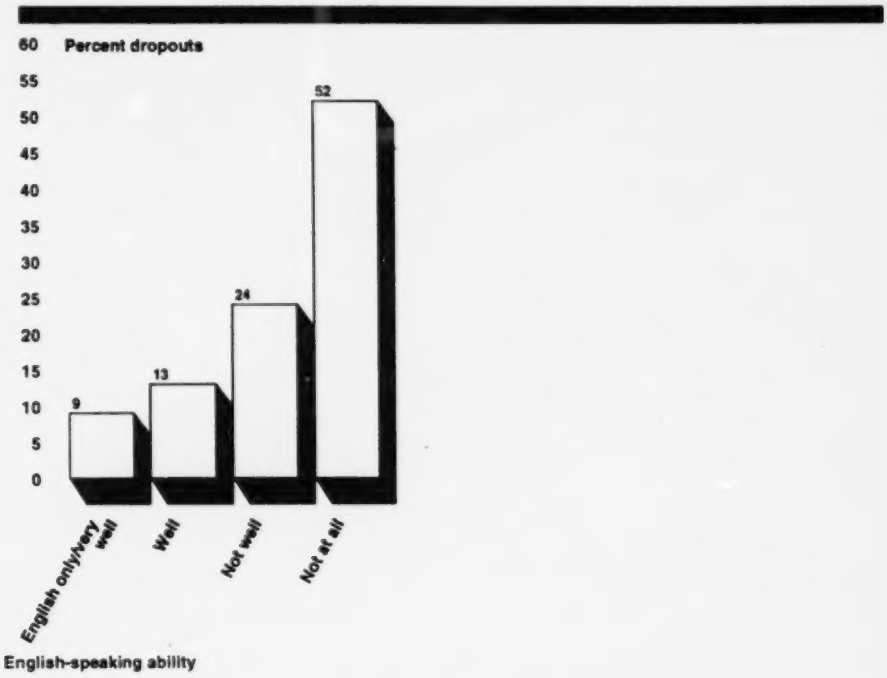
born in the United States, (2) lack of English-speaking ability, (3) low family income, and (4) marriage and childbirth.

Not born in the United States: Dropout rates were higher for persons born outside the United States than for U.S.-born Hispanics—14 percent versus 10 percent—even when recent entrants were excluded from the analysis.

Lack of English-speaking ability: The more limited the Hispanic students' ability to speak English, the higher the dropout rate.[10] (See figure 5.) While dropout rates for U.S.-born Hispanics were lower the better they spoke English, the effect of English-speaking ability on the dropout rate of Hispanics born outside the United States was far more dramatic. (See figure 6.)

[10]English-speaking ability was measured by asking the family member who responded to the census to rate each member of the household.

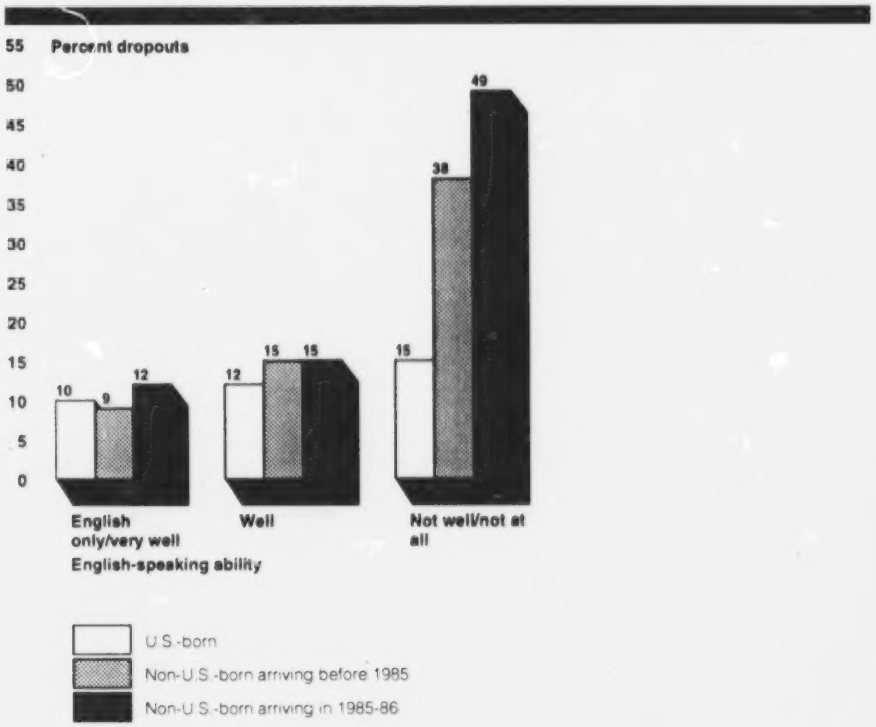
Figure 5: 1990 Dropout Rates for Hispanics Age 16 and 17, by English-Speaking Ability



Note: Excludes persons who arrived in the United States between 1987 and 1990.

Source: GAO analysis of 1990 decennial census PUMS.

Figure 6: 1990 Dropout Rates for Hispanics Age 16 and 17, by U.S.-Born and Non-U.S.-Born and by English-Speaking Ability



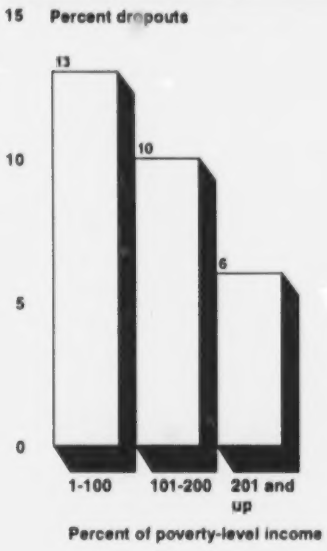
Note: Excludes persons who arrived in the United States between 1987 and 1990.

Source: GAO analysis of 1990 decennial census PUMS.

A lack of English-speaking ability was most strongly associated with dropping out among the more recent entrants to the United States. Among those who arrived in 1985 and 1986, those who spoke English "not well" or "not at all" had dropout rates 3 times the rate of those who spoke English "well." It may be that for those who speak English poorly or not at all, the combined difficulties of language and other complications associated with more recent arrival in this country are particularly disruptive of schooling. This educational disruption may be especially difficult for youths arriving in the United States in the later high school years, when the need to acquire skills for graduation (possibly including the wherewithal to pass a high stakes state examination) may be particularly daunting.

Low Family income: Hispanics age 16 and 17 from poorer families had higher dropout rates. (See figure 7.) We measured poverty by income relative to threshold poverty levels established for certain federal programs. Thus, we found the greatest poverty among those in "poverty level 1 to 100 percent," meaning a household income that is at or below the poverty level. Note that this poorest group also had the highest dropout rate.[11]

Figure 7: 1990 Dropout Rates for Hispanics Age 16 and 17, by Income as a Percent of Poverty-Level Income



Note: Excludes persons who arrived in the United States between 1987 and 1990 and those not living with parents, stepparents, or grandparents or who were not in the same residence in 1985.

Source: GAO analysis of 1990 decennial census PUMS.

Marriage and childbirth: For both young Hispanic males and females, those who had ever been married had dropout rates about 5 times higher than those who had never married. (See table 1.)

[11]For purposes of our poverty analyses only, we excluded persons who lived in less stable households. Therefore, it is not meaningful to compare the dropout rates in figure 7 with the rates in other figures. See appendix I for details of the methodology we employed for this poverty analysis.

Table 1: 1990 Dropout Rates for Hispanics Age 16 and 17, by Sex and Marriage Status

	Dropout rate	
Sex	**Ever married**	**Never married**
Males	47.0%	10.2%
Females	51.3	9.5

Source: GAO analysis of 1990 decennial census PUMS.

We found that child-bearing was also associated with higher dropout rates for Hispanic females 16 and 17 years of age, especially when combined with marriage. The dropout rate among married mothers was higher than the rate among married but childless females. Married mothers were also more likely to have dropped out than were unmarried mothers. (See table 2.) We do not have an explanation of this finding. It could be that unmarried women with children are more likely to be living with parents and thus have more resources for staying in school than do married women with children.

Table 2: 1990 Dropout Rates for Hispanic Females Age 16 and 17, by Motherhood Status and Marriage Status

	Dropout rate	
Motherhood status	**Ever married**	**Never married**
Had one or more children	66.0%	42.4%
No children	33.3	7.4

Source: GAO analysis of 1990 decennial census PUMS.

Young Hispanic females who had married and given birth had an average dropout rate of 66 percent, about 9 times that of their peers who had neither married nor given birth. While this 66-percent figure is dramatic, it pertains to a relatively small segment of the population. Nine of every 10 Hispanic females age 16 and 17 in this analysis had never been married and had no children.

The research literature cites many other risk factors for dropping out that we could not examine because measures were not available in the PUMS data set we analyzed. These include factors such as family and peer influences, academic performance, school behaviors (regularity of attendance, discipline problems, and so on), use of illegal substances, attitudes and behaviors of teachers and other school staff, and the like.

Characteristics of the Hispanic Dropout Population

Because 3 of every 10 young Hispanic adults are dropouts, it would be helpful to know more about this pool of young dropouts and what barriers may exist to their returning to classes to get a high school education. We cannot simply rely on the information in the previous section because that analysis excluded 16- to 17-year-old dropouts who arrived in the United States within the last 3 years and all young adult dropouts aged 18 and over. Put another way, the previous section told us a lot about who drops out of U.S. schools but little about the educational qualifications of the Hispanic young adult labor force.

From the PUMS data set, we derived the following estimates of the characteristics of the population of 16- to 24-year-old dropouts:

- Of the 1.15 million Hispanic dropouts, 59 percent are male.
- Over one fourth were not in the United States when they were of school age—that is, they were born outside the United States and were age 18 or older when they entered this country.
- More than 7 of every 10 Hispanic dropouts are of Mexican origin, and 1 of 10 is of Puerto Rican origin.
- The dropouts are concentrated geographically: 44 percent are living in California, 18 percent in Texas, and 8 percent in New York. Thus, 7 of every 10 Hispanic dropouts are located in these 3 states. (See table 3.)

Table 3: the 1990 Distribution of Hispanic Dropouts Age 16 to 24, by State

State	Number of Hispanic dropouts	Percent of all Hispanic dropouts	Cumulative percentage
Arizona	33,759	3%	3%
California	505,412	44	47
Colorado	16,806	2	49
Florida	50,065	4	53
Illinois	49,557	4	57
Massachusetts	15,784	1	58
New Jersey	28,251	3	61
New Mexico	16,440	1	62
New York	89,734	8	70
Texas	210,956	18	88
All remaining states	130,152	11	99[a]
Total	**1,146,916**	**99[a]**	**99[a]**

[a]Percentages do not add to 100 because of rounding.

Source: GAO analysis of 1990 decennial census PUMS.

The foregoing information on the concentrations of the dropout population is useful, for example, in considering how to set up programs to ease the return to school for Hispanic dropouts. We are not arguing that the foregoing patterns are unique; they do, in fact, generally reflect the distribution of the 16- to 24-year-old Hispanic population.

These 1.15 million young dropouts include many individuals who will spend years working in the United States, suggesting an economic interest on the part of the U.S. government in improving their preparation for full and useful participation in the labor force.

However, there is one substantial unknown in our analysis. Almost two thirds of these young Hispanic dropouts were born outside the United States, often in Mexico.[12] It is not clear how many of these young dropouts intend to remain in the United States and thus have an incentive to resume their education in order to obtain a high school diploma or an equivalency certificate.[13] In any case, Hispanic dropouts face the following formidable barriers to completing their education.

Lack of English-speaking ability: We noted earlier that the risk of dropping out was especially high for those with limited English-speaking ability. Unfortunately, this is a common liability: 40 percent of Hispanic dropouts, nearly 456,000 persons, speak English "not well" or "not at all." Research shows that limited English-speaking ability also deters dropouts from further pursuing an education. Dropouts born outside the United States who have a limited command of English and expect to return to their homelands may see high costs and few benefits in returning to school. Yet, where the demand for further education exists, the geographic concentration of dropouts might make the delivery of educational services to persons with a very limited command of English more practical than would be the case if dropouts were more dispersed. Of course, funds for such services may well not be made available.[14]

[12]There were 542,011 dropouts of Mexican origin who were born outside the United States. They represent 73 percent of all 16-to 24-year-old Hispanic dropouts born outside the United States and 47 percent of all 16- to 24-year-old Hispanic dropouts.

[13]Kevin F. McCarthy and R. Burciaga Valdez, Current and Future Effects of Mexican Immigration in California (Santa Monica, Calif.: Rand Corporation, 1985), sections II and III.

[14]See our recent report Limited English Proficiency: A Growing and Costly Educational Challenge Facing Many School Districts, GAO/HEHS-94-38 (Washington, D.C.: January 1994).

Years of education needed: Many dropouts have a long way to go to get a high school diploma. Over half need 3 years or more of education, having at most completed grade 9. (See table 4.)

Table 4: Educational Attainment of Hispanic Dropouts Age 16 to 24 in 1990

Grade level	Number of Hispanic dropouts	Percent of all Hispanic dropouts	Cumulative percentage
Grade 4 and below	166,325	14%	14%
Grades 5 to 8	294,523	26	40
Grade 9	184,252	16	56
Grade 10	166,704	14	70
Grade 11	171,024	15	85
Grade 12 but no diploma	164,078	14	99[a]
Total	**1,146,916**	**99[a]**	**99[a]**

[a]Percentages do not add to 100 because of rounding.

Source: GAO analysis of 1990 decennial census PUMS.

Poverty: Whatever the causal connection may be between poverty and dropping out, poverty is a potential barrier for dropouts who may want to go back to school to complete a high school education. Some experts suggest that poor dropouts do not have the luxury of long-term thinking; their present needs for cash overwhelm any longer-term plans. Over one third of the Hispanic dropouts 16 to 24 years old are living on incomes that place them at or below the federally defined poverty line (data not shown).

Job and family responsibilities: Combined duties (both job and family) can limit the time available for dropouts to pursue their education. Responsibilities are quite different for male and female Hispanic dropouts. Males are more likely than females to be in the labor force (82 versus 46 percent) but are less likely to be married (25 versus 48 percent). A minority have neither a job nor family responsibilities (16 percent of males and 29 percent of females). In addition, relatively few Hispanic dropouts have both job and family responsibilities. For males, only 20 percent of dropouts are both married and in the labor force, and some men are working part-time or are separated from their families. For females, only 16 percent of dropouts are both married and in the labor force.[15]

[15]The results are similar if we look at whether the female dropout has child-care responsibilities rather than at marital status: 15 percent of female dropouts are both in the labor force and living with their own children. PUMS does not include data on whether males are living with their own children.

Concluding Observations

This report has concentrated on describing and showing the diversity within the Hispanic population in terms of high school completion, using cross-sectional demographic data from the 1990 census. This descriptive information is useful background for understanding the varied segments of the Hispanic dropout population and the fact that status dropout figures do not represent the rate at which Hispanics drop out of U.S. schools.

However, presenting cross-sectional demographic data on a single group has three important limitations that merit brief discussion. First, although these data tell us who drops out of school, they neither tell us why students cease to attend nor reveal the dynamics of students' decisions. For example, we know from these data that married Hispanic teenagers are more likely to have dropped out than those who have never married, but we cannot say whether marriage causes or even precedes departure from school. Information on students' decisions to drop out is available from cohort studies such as NELS:88 and observational studies.[16]

Second, while the census includes data on individual dropouts, it does not include information about the schools such students attended or the educational resources in their communities. Thus, census data do not suggest educational policy solutions that might help to reduce the dropout rate. We know from other studies that poor, ethnic-minority, and language-minority students are likely to attend high poverty schools in communities that offer limited options for out-of-school learning. Such studies were among the materials reviewed by the Congress in connection with the 1994 reauthorization of the major federal elementary and secondary education programs.[17]

Finally, our focus on Hispanics might lead readers to form an exaggerated notion of the differences between Hispanics and other racial or ethnic groups. True, the overall dropout rate for 16- to 24-year-old Hispanics was markedly higher than for other groups. However, when comparison is limited to persons of comparable background who attended U.S. schools, this dramatic difference disappears. For example, the NELS:88 data indicate Hispanics who actually attend U.S. schools are no more likely to drop out

[16]For a useful summary of statistical data, with references to observational studies, see the annual publication Dropout Rates in the United States issued by the National Center for Education Statistics.

[17]For a summary of these studies, see Reinventing Chapter 1: The Current Chapter 1 Program and New Directions. Final Report of the National Assessment of the Chapter 1 Program. (Washington, D.C.: U.S. Department of Education, February 1993).

than are non-Hispanic blacks or whites of the same sex and similar socioeconomic status.[18]

Agency Comments

We met with responsible officials of the Department of Education who agreed that, in view of the fact that our analysis was entirely based on Bureau of the Census data, they did not need to review this report. Further, because our report is largely descriptive in nature, we decided not to request written agency comments.

We performed our work in accordance with generally accepted government auditing standards between February 1993 and January 1994. The names of the experts we consulted are listed in appendix IV.

We will send copies of this report to the Chairman and Ranking Minority Member of the Committee on Education and Labor, the Ranking Minority Member of the Senate Committee on Labor and Human Resources, the Secretary of Education, and the Secretary of Labor. We will also make copies available upon request to others who are interested.

If you have any questions or would like additional information, please call me at (202) 512-2900 or Robert York, Director of Program Evaluation in Human Services Areas, at (202) 512-5885. Other major contributors to this report are listed in appendix V.

Terry E. Hedrick
Assistant Comptroller General

[18]Philip Kaufman and Denise Bradby, Characteristics of at-Risk Students in NELS:88, NCES 92-042 (Washington, D.C.: National Center for Education Statistics, August 1992), p. 8.

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Abbreviations

GAO	General Accounting Office
CPS	Current Population Survey
GED	General Education Development (certificate)
NELS:88	National Education Longitudinal Study of 1988
PUMS	Public Use Microdata Sample

1990 Census of Population and Housing Public Use Microdata Samples

In this appendix, we describe the 1990 census and the sample that we used, explain why we chose it, identify its limitations, and provide a rationale and description of the samples within PUMS that we analyzed.

The 1990 Census and PUMS

The 1990 census consisted of two questionnaires: the 100-percent questionnaire composed of a core set of questions asked of everyone and about every housing unit and the "long-form" questionnaire that included a more extensive set of questions asked of a sample of subjects at approximately one out of every six housing units, as well as of one out of six persons in group quarters. The 100-percent questionnaire asked about some basic demographic characteristics, such as race, age, relationship, housing value, and rent. The long-form questionnaire asked more detailed questions about characteristics such as education, ancestry, year of entry into the United States, income, and housing costs, in addition to the basic demographic and housing information covered in the 100-percent questionnaire.

PUMS contains most of the population and housing information collected in the 1990 census, but PUMS is a subset of the census sample (the sample receiving the "long-form" questionnaire). The largest public-use microdata sample, which we used for our analyses, is the 5-percent sample. Although PUMS is a subset of the census sample, the 5-percent sample is still quite large, including over 12 million persons nationwide.

Selection of PUMS

The PUMS data were particularly useful for examining the extent of the Hispanic dropout problem and the characteristics of dropouts. This sample provides for national estimates that can be generalized and, because of its large size, allows for estimates with relatively small errors of smaller Hispanic populations, based on such characteristics as marriage and origin.

We had considered using the Current Population Survey because it would give us more recent national estimates, but the much larger sample size of PUMS was a compelling advantage. Further analysis of data from longitudinal studies, such as the National Education Longitudinal Study of 1988, did not seem useful.

Limitations of PUMS

PUMS does not include all the variables that other research has suggested are associated with dropping out. Thus, we had to limit our analysis to the

demographic data found in PUMS. Also, since the data in PUMS are not longitudinal, we were unable to know with certainty that the (changeable) characteristics of dropouts—such as poverty, early marriage, or early childbearing—preceded the act of dropping out. Thus, although we are more certain of the predictive value of our analysis of fixed characteristics (such as year of U.S. entry) and relatively fixed characteristics (such as English-speaking ability), we had to make some assumptions for our analysis of the other variables.

We discuss sampling errors in appendix II. Nonsampling errors are inaccuracies introduced during collecting or processing the data. For example, some respondents may incorrectly answer questions, interviewers may incorrectly code some questions, or those editing the data may incorrectly impute characteristics based on other data. Recognizing that some nonsampling error is inevitable in the large and complex operations of the decennial census, the Bureau of the Census has programs to minimize it in several primary areas—undercoverage of persons and housing units, respondent and enumerator error, processing error, and nonresponse to particular questions.

We identified two concerns about nonsampling error. First, according to the Bureau of Census studies themselves, the 1990 census had a net undercount of between 1.6 and 1.8 percent of the population. Moreover, the net undercount varied by age, race, and sex. Thus, we probably slightly underestimate the number of Hispanics and Hispanic dropouts among the youths and young adults in our analyses. We did not attempt to adjust estimates for undercounts.

Our second concern about nonsampling errors involved the reliability of the key variable in our study, dropping out. Initially, we had intended to analyze dropout patterns of Hispanics as young as 11 years old, but our concern about the reliability of the dropout data, most particularly for ages younger than 16, led us to limit our analysis to ages 16 and older. Our analysis of the PUMS data would suggest that 11- to 14-year-old Hispanics had a dropout rate of about 4 or 5 percent, which is about 4 or 5 times greater than the estimate derived from the October 1990 CPS. Census officials were aware that attendance rates are depressed in the 1990 census relative to both the 1990 CPS and the 1980 census. However, they cannot explain the discrepancy, although it may be a measurement error in the 1990 census. We thus limited our analysis to Hispanics 16 and older because the estimated degree of measurement error for this group, if any, in the 1990 census data was far less than for younger age groups. (While

we would have liked to have examined dropout patterns for persons younger than age 15, the unreliability of the census data as discussed previously made this impractical.)

Samples Within PUMS

For much of our study, we described the characteristics of 16- to 24-year-old Hispanics. Note that we studied predictors of dropping out and that we did not try to determine "causes" of dropping out using census data on individuals at one point in time. We did, however, make certain analytical decisions to make our analysis of dropout risk more meaningful. PUMS provided a large sample size for each year of age and for the combined age groups. (See table I.1.) For the analysis of predictors of dropping out, we analyzed 16- and 17-year-olds. We restricted the sample to those who were U.S.-born or who had entered the United States before 1987. Since we were interested in studying the factors that predict dropping out by students in U.S. schools, we hoped to exclude the dropouts who were the most recent immigrants and who thus never or only briefly attended U.S. schools.

Table I.1: Number of Hispanics Age 16 to 24 in PUMS

Age in April 1990	Sample size
16	18,803
17	19,342
18	20,021
19	21,064
20	21,028
21	20,338
22	20,372
23	20,611
24	20,850
Total	**182,429**

In table I.2, we show the reduction in sample size that occurs when the sample is limited to persons born in the United States and persons who entered before 1987. The analyzed sample can be generalized to 89 percent of all Hispanics age 16 and 17 but to only 71 percent of the dropouts. We judged the gain in ensuring that we were generalizing about students in U.S. schools to be worth the loss in scope.

Table I.2: PUMS Sample Sizes and 1990 Population Estimates for 16- and 17-Year-Old Hispanics

16- and 17-year-old Hispanic population	Sample size		Estimated population	
	Total	Dropouts	Total	Dropouts
All	38,145	5,312	752,567	104,294
Excluding those who entered in 1987-90	34,203	3,815	673,500	74,540

For our analysis of poverty levels, we further restricted our scope to persons who were living with parents, stepparents, or grandparents, as well as those or who had resided in the same place for 5 years at the time when the census data was gathered. We assumed that these persons were in relatively stable households, and that the family income of those households reflected the dropouts' income levels before they dropped out of school. We were less certain that the family income of persons in other household situations reflected income levels of the dropouts before they dropped out. To the extent that dropouts were leaving their prior household situations and their moving affected family income level, an analysis that included this group would have biased our predictive analysis. For example, if dropouts tended to leave their parents' households after dropping out to form poorer households, then including such dropouts in our analysis would exaggerate the extent to which poverty predicts dropping out (since greater poverty in this example is the result, rather than a predictor, of dropping out).

This restriction of our poverty analysis resulted in a disproportionate loss of dropouts in this age group. (See table I.3.) Our findings about poverty are thus limited to persons in this age group whom we judged to be in stable households. Although this is an important limitation, we judged it better to be more certain about our findings for this restricted sample than to present possibly misleading findings about the whole sample. While this restriction may have led us to underestimate or overestimate the predictive strength of poverty, the thrust of our findings is similar to that of many other studies—that is, those from poorer families are more likely to drop out.

Table I.3: PUMS Sample Sizes and 1990 Population Estimates for 16- and 17-Year-Old Hispanics, Excluding Those Entering the United States in 1987-90

16- and 17-year-old Hispanic population, excluding persons who entered in 1987-90	Sample size		Estimated population	
	Total	Dropouts	Total	Dropouts
All	34,203	3,815	673,500	74,540
Only persons in apparently stable households	31,560	2,845	619,230	55,418

Confidence Intervals

In this appendix, we present confidence intervals for the estimates contained in this report.

Because the estimates that we made in our analysis of the 1990 census data were based on a sample, they may differ from what would have been obtained if we had had information on all persons represented by the estimate. Each estimate has a sampling error indicating how closely we could reproduce from a sample the results that we would have obtained if we had made a complete count of the population using the same measurement methods. By both adding the sampling error to and subtracting it from the estimate, we developed upper and lower bounds for each estimate. This range is called a "confidence interval." We calculated these confidence intervals at the 95-percent confidence level; this means that if we had taken 100 samples and constructed confidence intervals for each sample, we could have expected 95 of these confidence intervals to include the actual value for the characteristic we were estimating.

There are two methods of calculating confidence intervals on 1990 census data available in PUMS. The first and simpler method is based on already calculated standard errors for specific sizes of estimated totals and percentages, as well as a design factor for specific variables being estimated. (The design factor adjusts the standard error to take account of the fact that the census sample is a complex design rather than a simple random sample.) The second method allows more precise estimates of standard errors but requires more complicated data processing. This method, called the random group method, requires the estimation of a standard error from the variability in estimations of up to 100 random groups within the sample.[1]

For calculating confidence intervals for our estimates, we used the more precise random-group method. For estimations involving comparisons between Hispanics and other groups, we used the simpler method, which gives less precise estimates of the standard errors. Because the estimated confidence intervals for these other populations were small and generally conservative, this simpler method sufficed for our purposes.

Both methods of calculating standard errors fail to capture all aspects of nonsampling error that may be present in the data. The nonsampling error, if present, could introduce bias into the data and add errors in estimation

[1]The Bureau of the Census does not release details about the complex sampling design of the census in order to maintain the legally required confidentiality of respondents. This confidentiality prevents the use of other methods of calculating standard errors for complex sampling designs.

beyond those attributable to sampling. Therefore, the estimated standard errors should be considered a lower bound of total error. Further, the confidence intervals based on these standard errors may not meet the 95-percent level of confidence.

Nature and Extent of the Hispanic School Dropout Problem

Table II.1: Dropout Rates of 16- to 24-Year-Olds

Ethnicity/race	Dropout rate	Standard error (+/-)[a]
Hispanic	30.5%	0.4%
Non-Hispanic		
White	10.3	0.1
Black	17.7	0.7

[a]At 95-percent confidence level.

Table II.2: Estimated Dropout Rate of 16- to 24-Year-Old Hispanics, by Selected Characteristics

Characteristic	Dropout rate	Standard error (+/-)[a]
Hispanic origin[b]		
Central American	35.7%	1.1%
Cuban	14.3	1.0
Dominican	26.3	1.8
Mexican/Mexican-American	34.3	0.4
Puerto Rican	26.6	0.9
South American	12.4	1.1
Other	18.7	0.7
U.S. born/year of entry		
U.S. born	19.9	0.3
Entered before 1985	35.4	0.6
Entered 1985-90	52.2	0.7

[a]At 95-percent confidence level.

[b]In 1990, the estimated number of 16- to 24-year-old Hispanics in the United States was 1,146,916, with a standard error of +/-17,094.

Table II.3: Estimated Percent of 16- to 24-Year-Old Hispanic Dropouts, by Place of Birth

Place of birth	Percent of dropouts	Standard error (+/-)[a]
U.S. born	35.6%	0.6%
Born outside U.S.	64.4	0.6

[a]At 95-percent confidence level.

Which Hispanic Students Are Most at Risk of Dropping Out?

Table II.4: Estimated Dropout Rates of 16- and 17-Year-Old Hispanics, Excluding Persons Born Outside the United States Who Entered After 1987

Characteristic	Dropout rate	Standard error (+/-)[a]
Born in U.S.	10.0%	0.5%
Most recent year of entry		
1987-90	37.6	1.7
1985-86	22.8	2.5
Before 1985	12.3	1.0
English-speaking ability		
Only English or very well	9.4	0.4
Well	13.3	1.2
Not well	23.7	3.2
Not at all	51.8	5.4
U.S. born or year of U.S. entry, and English-speaking ability		
U.S. born/only or very well	9.5	0.5
U.S. born/well	12.2	1.4
U.S. born/not well or not at all	15.4	2.9
1985-86/only or very well	12.0	3.3
1985-86/well	14.6	4.1
1985-86/not well or not at all	48.7	5.5
Before 85/only or very well	8.8	0.9
Before 85/well	14.9	2.3
Before 85/not well or not at all	38.4	4.3
Ever married, by sex		
Male, never married	10.2	0.6
Male, ever married	47.0	3.2
Female, never married	9.5	0.6
Female, ever married	51.3	2.2
Female, ever married/ever given birth		
Never married, no birth	7.4	0.5
Never married, birth	42.4	3.8
Married, no birth	33.3	4.6
Never married, birth	66.0	5.7
Poverty level income[b]		
1-100%	12.8	0.9
101-200	10.0	0.7
201 and above	6.1	0.4

[a]At 95-percent confidence level.

[b]Only persons in stable households and not in institutions, military quarters, or college dormitories.

Characteristics of the Hispanic Dropout Population

Table II.5: Estimates of 16- to 24-Year-Old Hispanic Dropouts, by Selected Characteristics

Characteristic	Percent of dropouts	Standard error (+/-)[a]	Number of dropouts	Standard error (+/-)[a]
Gender				
Male	58.6%	0.5%	672,079	11,869
Female	41.4	0.5	474,837	8,409
Age				
16	3.3	0.2	37,663	2,003
17	5.8	0.2	66,631	2,565
18	9.4	0.3	107,544	3,296
19	11.3	0.3	129,716	3,823
20	13.3	0.3	152,123	4,551
21	13.4	0.3	153,391	4,052
22	14.4	0.3	164,929	4,963
23	14.6	0.4	167,611	4,631
24	14.6	0.3	167,308	4,335
U.S. citizenship				
Born in U.S.	35.6	0.6	408,565	6,929
Born in Puerto Rico or outlying territories	4.0	0.2	46,159	2,718
Born abroad of U.S. parents	1.3	0.1	14,497	1,322
Naturalized	7.7	0.3	88,077	3,538
Not U.S. citizen	51.4	0.6	589,618	13,323
Origin				
Central American	7.9	0.4	90,272	4,460
Cuban	1.5	0.1	16,684	1,231
Dominican	1.9	0.2	22,290	2,186
Mexican/ Mexican American	72.3	0.6	829,384	14,201
Puerto Rican	9.9	0.4	114,009	4,752
South American	1.7	0.2	19,137	1,877
Other	4.8	0.2	55,140	2,684

(continued)

Characteristic	Percent of dropouts	Standard error (+/-)[a]	Number of dropouts	Standard error (+/-)[a]
State				
Arizona	2.9	0.2	33,759	2,515
California	44.1	0.7	505,412	11,879
Colorado	1.5	0.1	16,806	1,554
Florida	4.4	0.2	50,065	2,850
Illinois	4.3	0.2	49,557	2,986
Massachusetts	1.4	0.2	15,784	1,732
New Jersey	2.5	0.2	28,251	2,382
New Mexico	1.4	0.1	16,440	1,558
New York	7.8	0.4	89,734	4,204
Texas	18.4	0.2	210,956	6,136
Other 40 states	11.4	0.4	130,152	5,180
English-speaking ability				
Only English	14.6	0.4	167,408	4,411
Very well	30.6	0.5	350,756	7,676
Well	15.1	0.4	173,036	5,397
Not well	21.1	0.5	241,507	6,961
Not at all	18.7	0.5	214,209	6,567
Educational attainment				
0-4th grade	14.5	0.4	166,335	6,204
5th-8th grade	25.7	0.5	294,523	7,370
9th grade	16.1	0.4	184,252	4,931
10th grade	14.5	0.4	166,704	4,319
11th grade	14.9	0.4	171,024	4,275
12th grade, no diploma	14.3	0.4	164,078	4,729

[a]At 95-percent confidence level.

Table II.6: Estimates of 16- to 24-Year-Old Hispanic Dropouts, by Selected Characteristics

Characteristic	Percent of male or female dropouts	Standard error (+/-)[a]	Number	Standard error (+/-)[a]
In labor force				
Male	81.5%	0.5%	547,866	10,141
Female	46.4	0.7	220,513	5,529
Married in 1990				
Male	22.6	0.5	151,786	4,541
Female	41.2	0.7	195,637	4,629
In labor force and married				
Male	20.3	0.5	136,278	4,332
Female	16.5	0.6	78,515	2,832
Females in labor force and living with children	15.0	0.5	71,390	2,630

[a]At 95-percent confidence level.

Table II.7: Estimates of 16- to 24-Year-Old Hispanic Dropouts, by Poverty Level

Characteristic	Percent of dropouts[a]	Standard error (+/-)[a]	Number of dropouts[a]	Standard error (+/-)[b]
Poverty level in 1989				
1-100%	35.5%	0.6%	406,527	8,325
101-200	32.7	0.6	375,400	8,464
201-300	16.9	0.5	193,995	6,085
301-400	7.1	0.3	81,848	3,677
401 and higher	4.9	0.2	55,995	2,791

[a]Excludes institutionalized persons and persons in military group quarters or college dormitories.

[b]At 95-percent confidence level.

Estimate of the Dropout Rate for Hispanics Who Had Contact With U.S. Schools

Using PUMS data on entry periods and age as of April 1990, we can estimate the number of Hispanics entering the United States at the age of 18 or older. It is reasonable to assume that many, if not most, of these entering the United States beyond the compulsory school age had little or no experience in U.S. public schools. We derived an adjusted dropout rate for 16-to 24-year-olds who had contact with U.S. schools by subtracting the late-entry group from the calculation of the dropout rate among Hispanics.

PUMS provides multiyear entry periods rather than a year of entry. For each entry period and age (16 to 24) as of April 1990, we calculated the range of possible ages at the time of entry. When the range fell entirely below 18 years or entirely above 17 years, persons in these entry and 1990 age combinations were assigned to the appropriate age-at-entry category. Other ranges include both 17 and 18 years as possible ages at entry. For example, those who were 24 on April 1, 1990, could have been 16 to 19 years old at the time of their entry if they entered between 1982 and 1984. For these ranges, the proportion of Hispanics who were 18 or older at the time of entry was calculated by assuming a uniform distribution of birthdays between April 2, 1989, and April 1, 1990, and a uniform distribution of entry across the entry period. The estimated numbers for each combination were then summed across each age and entry combination to produce the total estimates shown in table III.1.

Table III.1: Dropout Estimates for 16- to 24-Year-Old Hispanics, by Estimated Age at U.S. Entry

Estimated age at U.S. entry	Number of dropouts	Number of persons	Dropout rate	Percent of total dropouts	Percent of total persons
18 or older	304,989	545,338	55.9%	26.6%	14.5%
17 or younger, or U.S. born	841,927	3,214,911	26.2	73.4	85.5
Total	**1,146,916**	**3,760,249**	**30.5**	**100**	**100**

These estimates highlight the effect of older entrants, most of whom U.S. schools have had little opportunity to influence. Over one quarter (26.6 percent) of all dropouts among 16- to 24-year-old Hispanics appear to have dropped out with little or no experience of U.S. schools. Based on this analysis, the dropout rate for the remainder—26.2 percent—is our estimate of the dropout rate for Hispanics who probably have had contact with U.S. schools.

These estimates are clearly not precise for two reasons. First, their calculation relies upon an estimated age at U.S. entry and, second, the estimated age at entry is a proxy for a direct measure of the extent of U.S.

schooling. With respect to the first imprecision—stemming from estimating age of entry and apportioning dropouts—the effect is likely to be an underestimation of the number of dropouts among those with little or no contact with U.S. schools. Although we have apportioned dropouts in ranges of age-at-entry (39 percent of the total estimate of those entering at age 18 or older), assuming a uniform dropout rate across ages, our analyses elsewhere suggest that dropout rates are considerably higher among older age-cohorts. The consequence is that the percentage of dropouts who entered at age 18 and older is likely to have been greater than the estimated 26.6 percent and their dropout rate thus even higher than we estimated (assuming no change in the denominator). Conversely, and still assuming no change in the denominator, the estimated dropout rate of 26.2 percent for those under the influence of U.S. schools is probably too high.

With respect to the second imprecision—caused by selecting 18 years of age as a proxy for attendance in U.S. schools—the likely net effect on the dropout rate is far from clear, since several factors could affect both the numerator and denominator of the rate. On the one hand, results may underestimate the extent of U.S. schooling—for example, for the person who has had multiple entries into the United States or who entered at age 18 or older and pursued an education in the United States. (Note that a discontinuous U.S. education may present other educational obstacles to graduation, and we estimate by our methodology that only about 8 percent of those entering at age 18 or older were still pursuing a high school education or equivalency certificate in 1990.) Adjusting for this effect would increase the number of persons attending U.S. schools and could disproportionately increase the number of dropouts in this group as well.

On the other hand, our results overestimate the extent of U.S. schooling in that they exclude those entering at age 17 or younger who never or only briefly attended U.S. schools. Adjusting for this effect would have the opposite consequence: fewer persons would be counted as attending U.S. schools, and perhaps fewer dropouts would be included as well. Regardless of these adjustments, the dropout rate for Hispanics who had contact with U.S. schools is unlikely to be less than 20 percent, which is the rate for 16- to 24-year-old Hispanics who were born in the United States.

Expert Sources

Experts denoted by an asterisk are those who reviewed our draft report.

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Hispanic Dropouts and Federal Programs, GAO/PEMD-94-18R (Washington, D.C.: April 1994).

Elementary School Children: Many Change Schools Frequently, Harming Their Education, GAO/HEHS-94-45 (Washington, D.C.: February 1994).

Limited English Proficiency: A Growing and Costly Educational Challenge Facing Many School Districts, GAO/HEHS-94-38 (Washington, D.C.: January 1994).

School-Linked Human Services: A Comprehensive Strategy for Aiding Students At Risk of School Failure, GAO/HRD-94-21 (Washington, D.C.: December 1993).

Teenage Drug Use: Uncertain Linkages With Either Pregnancy or School Dropout, GAO/PEMD-91-3 (Washington, D.C.: January 1991).

School Dropouts: Survey of Local Programs, GAO/HRD-87-108 (Washington, D.C.: July 1987).

School Dropouts: The Extent and Nature of the Problem, GAO/HRD-86-106BR (Washington, D.C.: June 1986).

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